NAVAL WAR COLLEGE
Newport, R.I.

COUNTERING THE MOBILE THREAT:
LESSONS FOR THE OPERATIONAL COMMANDER

By

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A paper submitted to the Faculty of the Naval War College in partial
satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not
necessarily endorsed by the Naval War College or the Department of the Navy.

Signature:_____

05 February 2001

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Paper Advisor

20010510 172

REPORT DOCUMENTATION PAGE

1. Report Security Classification: UNCLASSIFIED

2. Security Classification Authority:

3. Declassification/Downgrading Schedule:

4. Distribution/Availability of Report: DISTRIBUTION STATEMENT A: APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.

5. Name of Performing Organization:
JOINT MILITARY OPERATIONS DEPARTMENT

6. Office Symbol: C	**7. Address:** NAVAL WAR COLLEGE 686 CUSHING ROAD NEWPORT, RI 02841-1207

8. Title (Include Security Classification): (UNCLASSIFIED): COUNTERING THE MOBILE THREAT: LESSONS FOR THE OPERATIONAL COMMANDER

9. Personal Authors: Brian D. Koehr, LCDR, USN

10. Type of Report: FINAL	**11. Date of Report:** 05 February 2001

12. Page Count: 24   12A Paper Advisor (if any): Erik J. Dahl, CDR, USN

13. Supplementary Notation: A paper submitted to the Faculty of the NWC in partial satisfaction of the requirements of the JMO Department. The contents of this paper reflect my own personal views and are not necessarily endorsed by the NWC or the Department of the Navy.

14. Ten key words that relate to your paper: Time, Critical, Mobile, Target, SAM, TBM, Rapid, Cell, Sensitive, UAV.

15. Abstract: The combined operational reach and firepower of the joint forces of the United States military is unrivalled in the world today, but what if a future enemy opts to simply survive until the resolve of US and coalition forces fades? Foremost in this potential ability to survive is the use of concealment and relocation of both air defense missile systems and theater ballistic missiles capable of carrying weapons of mass effect. The threat to the Joint Force Commander is clear. A sustained enemy ability to place at risk US airpower and ground forces with rapidly relocateable missile systems will have a direct impact on the courses of action available to the JFC. Unfortunately, future JFCs cannot wait for the magic of Network Centric Warfare to solve this problem with total battlespace awareness and connectivity. A better solution is needed today based on current and near-term capability. No single technological advance will provide the answer, but improvements in ISR interoperability, C2 organization, and weapon system integration will provide the JFC with a more responsive and potent counter to an elusive threat.

16. Distribution / Availability of Abstract:	Unclassified X	Same As Rpt	DTIC Users

17. Abstract Security Classification: UNCLASSIFIED

18. Name of Responsible Individual: CHAIRMAN, JOINT MILITARY OPERATIONS DEPARTMENT

19. Telephone: 841-6461	**20. Office Symbol:** C

INTRODUCTION

> Despite arms control, the proliferation of increasingly lethal conventional weapons and weapons of mass effects (WME)—capable of being launched by a variety of mobile platforms—will continue well into the 21st Century. Rapid, effective operations to destroy or neutralize critical mobile...targets, particularly those that can deliver WME, are essential to the success of future joint operations.[1]

The combined operational reach and firepower of the joint forces of the United States military is unrivalled in the world today. With National Command Authority acquiescence, tomorrow's Joint Force Commander (JFC) can carry a kit bag full of precision, stealth, and technological magic to any conflict. JFC's can go to battle with a decided advantage in military might, but what if the enemy opts not to stand toe to toe and trade jabs? What if the Joint Force Commander engages an adaptive enemy whose operational strategy is to remain a nuisance until US/Coalition public support fades? Although not an exhaustive illustration of potential future conflicts, Operation Allied Force, NATO's response to atrocities in Kosovo in 1999, is a useful example. "Belgrade sought to overcome a tremendous material and technological disadvantage by capitalizing on its strengths: the ability to gain operational objectives quickly and then disperse to avoid the inevitable aerial assault."[2] The lack of alliance ground forces in Kosovo further simplified this plan by limiting the threat to Serb forces. Highlighted was the clear operational challenge for the JFC. What if the enemy hides, fights, then hides again?

At the heart of Serb plans to counter the technological advantages of NATO was the use of mobility. The ability of Serb forces and air defense assets to operate then relocate created a distinct targeting dilemma. It was a challenge to detect, identify, decide to engage, and engage a mobile target before it relocated outside of sensor field of view.[3] The JFC was tasked with manipulating time and space, the defense mechanism of

a mobile target, to accelerate sensor-to-shooter connectivity enough to destroy a target with perishable coordinates.

The targeting process involves detecting, selecting, prioritizing targets; matching an appropriate weapon to the target; and assessing the resulting effects based on the commander's objective, guidance, and intent.[4] Critical mobile targets, a subset of time-sensitive targets, present a more significant challenge and increased threat over fixed targets due to the fact that they can quickly relocate.[5] Herein lies the problem facing the JFC. Whoever has the tighter decision (OODA) loop will win when dealing with mobile targets. What is required is an "energized system of systems that combines sensors and attack weapons in a dynamic joint command and control architecture that provides the JFC with an integrated and responsive capability to attack critical mobile targets" using the most effective means and in the shortest period of time.[6] The effective combination of information management and asset management integrated within an adaptive C2 apparatus has the potential to accelerate the sensor-to-shooter link. Inherent to this system of systems is the ability to control and receive sensor feeds, process data, and task appropriate weapon systems on a short timeline.

Technological advances will reduce the threat posed to future joint operations by critical mobile targets. Network Centric Warfare (NCW) promises a Common Relevant Operational Picture (CROP) and real-time transfer of images and targeting data to all players. To complement the future total battlefield connectivity will be a slew of advanced weapons including the Low Cost Autonomous Attack System, Land Attack Standard Missile, and ATACMs with Brilliant Anti-Tank Submunitions. Unmanned Combat Aerial Vehicles (UCAV) will loiter above the battlefield with automatic target

recognition algorithms processing sensor images and attacking with autonomy.[7]

Hypersonic stand-off weapons launched from air, land, or sea platforms will kill the

mobile missile systems capable of escaping within ten minutes of firing.[8] Far above the

battlespace will be a Space Based Infrared System (SBIRS) and high-endurance UAVs

capable of remaining aloft for weeks with numerous sensors, communication equipment,

and foliage penetrating radar.[9] Unfortunately, the JFC cannot wait for NCW and the

weapons that will piggyback on that information superiority. Targeting critical mobile

targets requires a more tangible remedy now, and this paper will focus on existing and

near future capabilities to combat the challenge while operating within the existing six

phase targeting process. The time-sensitive target set will be narrowed to include only

critical mobile targets, specifically mobile surface-to-air and theater ballistic missile

systems, due to their inherent risk to the JFC and ability to avoid detection.

BACKGROUND

A long-standing military requirement, again validated during Operation Allied Force, is
the need to provide rapid targeting and re-targeting of aircraft and preferred munitions
against known and emerging targets. A rapid targeting system that included reachback,
distributed operations, and real-time collection, intelligence, surveillance, and
reconnaissance assets was successful in shortening timelines from sensor to shooter.
Real-time threat information detected by various systems was relayed to the Combined
Air Operations Center, passed directly to strike assets, and exploited at national
intelligence centers.[10]

Effective targeting across the full spectrum of targets will facilitate today's and

Joint Vision 2020's operational goals of dominant maneuver, precision engagement,

focused logistics, full dimensional protection, and information operations.[11] Critical

mobile targets, the most difficult target set, present the greatest challenge. Uncountered,

they directly impact the courses of action available to the JFC while increasing the risks

to mission success. As an illustration, during Operation Allied Force (OAF), the

integrated air defense systems (IADS) of the Serbs were included in the strategic target

set, but mobile SAMs continued to be a thorn in the side of the JFC. Despite achieving air superiority, the unlocated, mobile SAM threat placed coalition air assets at risk throughout the conflict. The Serb IADS tried to hide only to emerge and energize their fire control radars when coalition aircraft were nearby. This short dwell time prevented the complete physical destruction of the IADS and forced the JFC to consider a robust and "still-alive" SAM threat when planning operations.[12] The risk to NATO forces remained, giving credence to the adaptive strategy of the Serbs and risking the repercussions of a casualty averse coalition. In fact, Serbian forces were still firing SAMs on the last day of the conflict despite increasing coalition attempts to pacify them.[13]

Absent from the conflict in Kosovo was a theater ballistic missile threat. The ability of NATO to combat such a threat can be debated, but one can speculate that given the topography, abundance of hidden launch locations, and NATO's lukewarm success in countering the mobile SAM threat, NATO would have been faced with a difficult challenge. In comparison, under near ideal conditions (desert topography) and despite a reportedly extensive effort during the 1990-1991 Persian Gulf Conflict, the US/Coalition had a poor record of success against SCUD missiles.[14] A robust TBM threat in Yugoslavia, especially one with WME capability, would not only have been a severe threat to the resolve of US alliance partners but a significant JFC concern for own force and Kosovar civilian protection.

NATO's struggles with the mobile SAM threat indicate how much the mobile target set can impact future joint operations. If Serbia's fighters and air defenses had been only a little more advanced with the addition of only a handful of more powerful

systems (SA-10's), "OAF probably would not have been the NATO walkover it turned out to be."[15] A more sophisticated and capable mobile SAM threat would have raised the level of risk to the alliance air assets, the most potent striking power available to the JFC, into the realm of "unacceptable risk" to a squeamish international political leadership. Therefore, the ability to more effectively combat critical mobile targets is of paramount importance when faced with a technologically advanced enemy. OAF was predominantly an air action by NATO facing a capable but manageable SAM threat. The landscape of future conflicts will darken when more robust SAM systems and TBMs are introduced.

TARGETING FUNDAMENTALS

Six Basic Phases of the Joint Targeting Cycle:

1. Commander's Objectives, Guidance, and Intent.
2. Target Development, Validation, Nomination, and Prioritization.
3. Capabilities Analysis.
4. Commander's Decision and Force Assignment.
5. Mission Planning and Execution.
6. Combat Assessment.[16]

The deliberate joint targeting cycle is the foundation on which all joint targeting is based, and it is applicable to the successful prosecution of critical mobile targets as well. In particular, commander's intent and target prioritization are crucial to effective rapid targeting efforts. The limited exposure time of mobile targets requires a branch to the deliberate cycle that simultaneously completes the last four steps. The attack cycle of detection, location, identification, decision, execution, and assessment must be accomplished inside of the enemies movement decision timeline.[17] To close this cycle requires timely information that is acted on with timely decisions. The shooter needs actionable intelligence (target coordinates), and synchronization of the battlespace is required to ensure deconfliction and unity of effort.[18]

Regressive planning is useful when formulating an approach to this challenge. The end game of a successful attack is a weapon impact on target. That requires a weapon system (shooter) which in turn requires actionable intelligence identifying and locating the target. Inherent to the process is a decision-maker who can communicate the decision to attack to the tasked asset based on the intelligence presented. Therefore, an effectively executed attack cycle requires an Intelligence, Surveillance, and Reconnaissance (ISR) effort that is capable of detecting, locating, and identifying a mobile target. A command and control network must be in place that can rapidly convert the intelligence into an attack decision. A capable weapon system is the third piece of the puzzle. Together, ISR, C2, and weapon systems must have the synergy to progress from detection to execution before the enemy can relocate.

SENSORS

> The effort to target a weapon system that relies on mobility and stealth to avoid destruction is a problem that has long confronted the U.S. Navy. Submarines rely on their ability to move quietly throughout the world's oceans as a defense against attack.[19]

Even the most precise weapons are useless without targeting data, and the more precise a weapon to be employed, the more detailed the targeting data must be. In this respect the advances in weapon technology have left the ISR team behind in their ability to support the JFC. A shooter cannot aim at what he cannot find, and it is the detection and precise fixing in space of mobile targets that presents the first part of the challenge. This chore is resource intensive, and, as General Merrill McPeak, Air Force Chief of Staff during the Gulf War, noted requires considerably more effort than would be expected.[20]

ISR platforms are to time-critical targeteers as radar is to the Area Air Defense Coordinator. They are the eyes and ears of the data collection effort providing raw

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intelligence that can be converted into useful information for the JFC. Available to the JFC is a wide array of national intelligence support teams and both space-based and aerial sensors: E-8 Joint Surveillance Target Attack Radar System (JSTARS), Defense Support Program satellites, Unmanned Air Vehicles (UAVs), U-2, EP-3, RC-135, EC-130, F-14 Fast Tactical Imagery, F-14 TARPS CD, RC-12, ES-3, EA-6B, and FLIR-capable attack aircraft. The challenge to the joint force ISR team is synchronizing and fusing these assets to facilitate the gathering, processing, and dissemination of information to provide relevant data for the decision-maker.[21] Hindering the effort is the scarcity of these High Demand/Low Density (HD/LD) assets. During OAF, ISR and C2 platforms performed many critical tasks for the JFC, but the worldwide demand for these assets highlighted the requirement for more of them. "Their crews and airframes were stretched to the limit during Allied Force."[22]

The challenge of integrating the ISR collection efforts at all levels of the conflict in Kosovo was a qualified success. The JFC operated the "first-ever distributed ISR architecture, providing actionable information to the decision-makers. Employing distributed operations, targeting and intelligence support was accomplished between units located at Beale (CA), Omaha (NE), Washington, Ramstein, HQ SHAPE, and several other sites located overseas and in CONUS supporting real-time operations."[23] Imagery from national and theater-level sensors flowed to multiple processors in an attempt to produce relevant targeting data. UAV's from the US Navy (Pioneer), Army (Hunter), and Air Force (Predator) were used extensively as part of the intelligence collection network providing real-time video to the Combined Air Operations Center (CAOC) in

Vicenza, Italy. The use of UAV's matured from intelligence collection to a targeting role enhancing the success of time-critical targeting.[24]

Also critical to the success of an ISR effort is a well considered allocation of resources. Every tool at the disposal of the JFC must be used in accordance with commander's guidance and target prioritization which means a planned, integrated ISR gameplan is requisite to success. Scarcity of resources demands a complementary effort that will lead to a cross-cueing of sensors to enhance collection. Controlling and directing the myriad of collection platforms of varied capability and employment techniques will further focus the effort.[25] Implied in this process is the requirement for the Intelligence Preparation of the Battlefield (IPB). Intelligence planners can better recommend ISR asset allocation and positioning by identifying likely areas of mobile target habitation (hiding places), predicting enemy operating procedures, selecting the most appropriate sensor for a given area, and researching the probable requirements for successful attack.[26] Preparatory strike asset apportionment will aid in the planning and accelerate the process of tasking specific shooters.

As already mentioned, the aim of the ISR team is to provide relevant, actionable intelligence to the JFC and, by extension, the shooter tasked with a time-critical strike mission. In OAF and foreseeable future conflicts this translates into a requirement for both positive identification (PID) and three-dimensional location data (PGM, FLIR-cueing, TLAM requirement). PID will always be a mandate when operating near friendly forces and /or civilians as was the case in Kosovo. It is difficult with current ISR capability to not only locate but positively identify a given contact as a hostile. Further hampering the effort are the political factors of collateral damage and casualty aversion.

"NATO's desire to limit collateral damage...constrained us in some circumstances from attacking possible ground force targets."[27] Tactical aircraft are well suited for hunting mobile targets, but, ironically, the threat presented by unlocated SAMs force air assets into an altitude sanctuary negating their "eyes on" detection capability. The lives of airmen will not be risked by flying low if the lives of soldiers are not at risk.[28]

Similarly, ground forces are a capable facilitator for airpower. Ground troops in contact with the enemy can provide real-time targeting data in the conventional forward air controller (FAC) role, but, as was the case during OAF, this capability might not be fielded. Special Operating Forces and varied other HUMINT sources of intelligence might not be available to the JFC as a targeting tool leaving the ISR collection effort to the sensors mentioned above.

> "Clearly, one of the great challenges of Kosovo was, because there was not an army in
> the field and because there were IDPs throughout the area of operations, we had to put
> eyes on target every time we were going to strike a tank or an artillery piece or whatever.
> So getting information to the cockpit was half the battle; getting eyes on the target was
> the second half."[29]

The product of future ISR efforts must be decision-ready intelligence including precise coordinates and definitive identification. Viewing real-time video from a Predator UAV in the CAOC is a start, but the real challenge is delivering the intelligence gained to a shooter who can kill the target. Most "present aircraft are not capable of displaying target imagery or of receiving target coordinates digitally while in flight," and this lack of an electronic data transfer capability across the spectrum of strike assets hinders rapid targeting.[30] Real Time Information In the Cockpit (RTIC) is a current capability that can bridge this intelligence gap and was used to positive effect during OAF. The F-15E/AGM-130 combination was able to receive processed U-2 imagery with mensurated coordinates while orbiting off the coast of Kosovo. This facilitated the

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attack of an enemy radar site found just minutes earlier.[31] The F-14 Fast Tactical

Imagery (FTI) system is also capable of receiving and transmitting targeting imagery and

has successfully proven airborne retasking capability in combat over Southern Iraq.

What is still needed, though, is the ability "to do that across the fleet, to move

information to A-10s and F-16s and F/A-18s and F-14s, everything we have got, to

allow" all airborne assets to accept airborne tasking for emerging mobile threats.[32]

COMMAND AND CONTROL

> C2 is perhaps the single most important function in (joint) military operations. It is the
> means by which the Joint Force Commander synchronizes joint activities in time, space,
> and purpose to achieve unity of effort.[33]

A well-integrated and responsive ISR system of systems providing decision-ready

intelligence is the foundational tool on which the JFC relies to combat critical mobile

targets. The organization and flexibility of the joint force command and control

architecture will determine how well the hard-won intelligence is utilized. During OAF,

the Joint Force Air Component Commander (JFACC), the commander of the air assets

providing the lion's share of coalition striking power, was responsible for delineating this

organization. In response to the mobile target threat, "an ad hoc Flexible Targeting Cell

(FTC)" was formed.[34] The functions of the FTC were refined during the conflict to the

point that hard intelligence could be transformed into targeting information and relayed to

strike aircraft in a matter of hours.[35] This is an improvement, but future threats demand

that the time from detection to destruction be reduced from hours to minutes. The

successes of the FTC were tangible, but the operational success of the JFC against the

critical mobile target set will vastly improve if the ad hoc adaptation of OAF is replaced

by a formalized organizational cell.

Time-critical mobile targets require a centralized "emergency" service imbedded in the JTF C2 network. "Speed of command" is paramount. A Time-Critical Targeting Cell (TCTC) will provide the JTF with a specialized unit populated by special-skills personnel who are responsible for combating the time-critical target set. Key to success will be the empowerment of the cell by the JFC to respond to the ISR network's target alerts. Included must be the authority to direct apportioned or non-apportioned but available assets to target quickly and decisively.[36] Robust and compatible secure communication (voice and/or link) from all levels of command to the tactical shooter are imperative.

Conceptually, a TCTC is modeled after the role of the Area Air Defense Coordinator (AADC) and the Defensive Counter Air (DCA) mission.[37] Enemy aircraft are airborne time-critical mobile targets and require an even greater degree of speed when countering. With similar missions, it is logical to assume a similar C2 architecture would be effective. The paradigm shift inherent to the requirements of the TCTC is the subordinate but centralized responsibility for and the authority to attack TCTs. Command by negation will still apply. Additionally, weapon systems will be apportioned to the cell in the planning stage of a conflict.[38] This will grant the cell autonomous attack authority within the framework of an integrated ISR and C2 network.

The first two phases of the joint targeting cycle will largely direct the efforts of the TCTC. Commander's guidance and target prioritization will define acceptable risk and priority of targets before the execution phase of the conflict begins. Knowledge of apportioned friendly forces and enemy assets derived from the IPB will enable an accelerated attack decision based on the risk allowed by the JFC. Following target

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detection, sensor intelligence will be converted to actionable intelligence while an appropriate weapon system is selected from apportioned assets. If available assets are not suitable for the target or inconsistent with the risk inherent to the mission, other assets can be redirected to the TCT mission. The target prioritization of the commander will determine if the redirected asset was fragged for a lower priority target. Finally, targeting information as well as relevant target area information will be pushed to the shooter via RTIC, FTI, or over secure voice nets. This last step is critical. During OAF, "secure communications capabilities were insufficient and many...transmissions were made in the clear."[39] Theater-wide, secure and compatible communications are required to allow the successful incorporation of attack assets that lack a secure digital data transfer capability.

WEAPON SYSTEMS

Selection of the best (TCT) asset begins during the capabilities analysis and tasking phase and continues through the mission planning phase. Individual component commanders provide recommendations to the JFC highlighting the pros and cons of their available weapon systems/capabilities based upon the current situation. The JFC also provides guidance to component commanders to allow them the flexibility to make an effective selection decision for employing the "best capable" attack asset.[40]

The weapon systems available for the time-critical targeting mission are varied in both capability and method of employment. Common to all is the characteristic of precision. Across all target sets more than 70 percent of the over 9,400 designated mean points of impact (DMPIs) targeted in OAF were struck by precision weapons.[41] The JFC, and by extension the TCTC, can select from "man-in-the-loop" precision weapons or near-precision weapons using Global Positioning Satellite (GPS) guidance. The laundry list of air-launched weapons includes the Joint Direct Attack Munition (JDAM), Joint Stand-Off Weapon (JSOW), Laser Maverick, High-Speed Anti-Radiation (HARM) missile, AGM-130, Conventional Air-Launched Cruise Missile (CALCM), and a family

of laser-guided bombs. The Tomahawk Land Attack Missile (TLAM) is another maritime force contribution. The introduction of ground forces will make available the Army Tactical Missile System (ATACMS), multiple launch rocket system (MLRS), field artillery, and attack helicopters.

The US capability to not only project but focus firepower is extraordinary and crucial to effectively target critical mobile targets. Over 90% of US strike aircraft involved in OAF were precision weapon capable compared to only 10% during Operation Desert Storm, the coming-out party for precision weapons.[42] Limitations exist that temper this technological edge, though, that must be considered in the context of time-critical targeting. Already discussed is the requirement for precise location data, the challenge of the ISR team. Near-precision weapons (GPS) will impact on the coordinates entered in their guidance kits even if there is no target at that location. The precise "man-in-the-loop" systems have the intangible of having a man in the loop. Aircrew proficiency will determine the quality of laser designations and the ability to PID the assigned target. PID from high altitude even with the F-14 LANTIRN system can present a challenge when the target, as an example, is a SAM transporter-erector-launcher (TEL) which if roughly the size and shape of a truck. Also, "man-in-the-loop" systems require Line-of-Sight (LOS) connectivity between the weapon and host platform. Adverse weather (clouds, smoke) can sever this link and can become an important operational planning hurdle as it did during OAF when only 21 of 78 days had favorable weather.[43]

The weapon system capability available to the TCTC is impressive, but the key will be ensuring availability of an asset capable of meeting the challenge of a particular

shooter mission. Aircraft time-on-station is limited by fuel. Tankers can increase time aloft but their availability will have to be balanced with other JFACC mission taskings. TLAM shooters must be in the requisite launch basket to ensure missile functionality, and airspace in the joint operating area must be deconflicted to prevent fratricide. Not all air assets possess RTIC capability nor compatible secure communications. The TCTC will require an expert's knowledge of apportioned assets to successfully task and support the weapons in the JTF arsenal.

LOW HANGING FRUIT

The critical mobile target set presents an asymmetric threat to the firepower-intensive American way of war. The proliferation of new theater missiles and the open-market economy offering cash-and-carry advanced SAM systems indicates this threat is here to stay. The current US C2 and ISR apparatus is not optimized to provide the required responsiveness, and no single technological advance will provide the solution. The next JFC does not have the luxury of waiting for the futuristic organizational and weaponry advances promised by the concepts of Network Centric Warfare. The alternative is to refocus the joint effort based on organizational ideas and systems that do not rely on the significant development of untested technology. This approach will not erase the challenge of targeting mobile targets nor the threat they pose, but it will give the JTF an enhanced probability of achieving success.

"Seamless integration of differing sensors and weapons from multiple organizations cannot be an ad hoc arrangement."[44] Countering mobile targets is a process with many moving parts and requires the education and training of the joint force to achieve the desired synergy. The ISR challenge is not only data collection but

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information sharing. While demonstrating commendable ingenuity, current data-sharing efforts are ad hoc and not conducive to the wide-pipe flow of information laterally and vertically throughout the joint force. The targeting community needs a single, centrally located, internet-based targeting database that multiple users from all disciplines (shooters included) can access.[45] Such a system requires a robust computer system, SIPRNET, a simple browser, and a common protocol.[46] Eliminated will be the incompatible digital target folders inherent to every component of the strike force. Increased bandwidth will facilitate the ever-widening flow of relevant targeting data that the TCTC can direct to apportioned assets. This will provide a single, compatible means of sharing target information and is a capability that can become reality in the near term with current capability.

The TCTC will provide the joint C2 architecture that will support the dynamic battlefield management required to effectively combat critical mobile targets. Barriers that break down the planning, collection, and execution processes will be eliminated by this single-point unit dedicated to the task of destroying mobile targets.[47] Future focus will be on the support elements of TBMs and SAMs. Mobile systems can be indirectly neutered by offensive information operations aimed at their C2 systems. "It is easier to target operating and storage facilities then it is to destroy missile warheads traveling toward a target at thousands of miles an hour."[48] Destroying cell phone and microwave towers, power grids, and enemy C2 trailers will isolate mobile systems from their controlling elements. Conversely, US communications must be enhanced with secure communication capability that in compatible with systems at all levels of the joint force. Capability analogous to RTIC is required for all strike assets and, as demonstrated by

"some strap-on systems on B-52s and B-1s" that enabled RTIC functionality, the goal is achievable in the near term.[49]

The current level of precision resident in the weapon systems of the joint force is capable of exacting a toll on any critical mobile threat. The long pole in the tent will be the precision and timeliness of the targeting data delivered to the launch platform. Acquisition will be an issue until inventory levels are congruent with expected expenditure because precision and near-precision weapons are today's weapons-of-choice, particularly for critical mobile targets. Introduction of the Tactical-TLAM in FY03 will provide both inflight retargeting and loiter capability to an already proven weapon. The ingenious rapid incorporation of a laser designator on the Predator UAV provided an airborne FAC capability that solved the PID challenge for NATO air assets.[50] These two additions to the arsenal will dramatically enhance the already potent surgical strike capability available to the TCTC.

CONCLUSION

But as Kosovo proved, potential enemies are watching. They realize the preoccupation in the West with firepower. Therefore, we should not be surprised to eventually encounter an enemy who has learned to nullify the advantages of firepower.[51]

Time-critical mobile targets present a formidable challenge to the joint targeting team and can directly impact the course of action chosen by the JFC. The technological superiority and overwhelming firepower of the US will not guarantee success against short-dwell targets, and victory might depend on the ability to eliminate the mobile missile threat of a future enemy. Mobile WME are the implements of guerilla warfare in the technology age. The coalition cohesion of Operation Desert Storm could have turned based on a few well-placed SCUD missiles. OAF demonstrated an adaptive strategy aimed at collapsing NATO's will to pursue offensive action by simply surviving the

onslaught. Future enemy capability and friendly vulnerability requires a capability to combat what can be a critical strength of future adversaries.

It is unwise to think the next war will mirror the last, but it is even more dangerous to think that the lessons of the last war can be discarded in the next.[52] Critical mobile targets are here to stay, and in the next conflict, enemy capability might require the destruction of these targets before they can be fired. Requiring the "flaming datum" of a just-launched TBM to provide targeting data for the host platform might spell disaster for future JFCs facing a newer, more lethal TBM/WME and SAM threat. While awaiting the omniscience of NCW, improvements in ISR interoperability, C2 organization, and weapon system integration will provide the JFC with a more responsive and potent counter to an elusive threat.

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